Remarks/Arguments

These remarks are in response to the Office Action dated July 27, 2005. This reply is timely filed.

At the time of the Office Action, claims 1-15 were pending in the application. Claims 1-3, 7 and 8 have been rejected under 35 U.S.C. §102(b). Claims 4-6, and 9-15 have been rejected under 35 U.S.C. §103(a). The rejections are set out in more detail below. Claims 1 and 10 have been amended. Claim 2 has been cancelled.

I. Brief Review of Applicants' Invention

Prior to addressing the Examiner's rejections on the art, a brief review of applicants' invention is appropriate. The invention relates to a system and method of tracking an entity. The entity can be a person or object. The invention includes two or more tracking stations in a wireless ad hoc network. An ad hoc network, also known as a peer-to-peer network, is a local area network or other small network in which some of the network devices are part of the network only for the duration of a communications session or while the network devices are within a defined proximity to each other. The tracking stations are in direct communication with one another.

Each entity is assigned a unique identifier. When the entity is located at the first tracking station, the first tracking station will determine the presence of the entity by detecting the entity's unique identifier. Then, the first tracking station will compare the entity's unique identifier data with a database of unique identifiers that are stored within the first tracking station. The first tracking station wirelessly transmits the entity's unique identifier data to at least a second tracking station and to a logging station that logs information acquired from the first tracking station. Depending on a predicted transit path of the entity, only certain tracking stations will receive the entity's unique identifier, while other tracking stations will not. Such selective dissemination of information reduces the necessary bandwidth required for communications among the tracking stations.

II. Claim Rejections Under 35 U.S.C. §102(b)

Claims 1-3, 7 and 8 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Published Application No. 2004/0169589 to Lea et al. ("Lea et al."). Lea et al. discloses a passenger/object location system that includes one or more radio transceivers (known as remote masters or RMs) located at predetermined locations. The passenger/object is given an Electronic Tracking Clip (ETC) containing a transponder that is uniquely identified with the passenger/object. The ETC is distributed using an ETC Dispenser. The transponder device is adapted to transmit an RF signal in response to receiving an RF signal from one or more RM's. A passenger location means determines the position of the passenger/object transponder by determining the location of the one or more radio transceivers that actually received the transponder signal. The RM's that detect the particular transponder signal send their detection information wirelessly to a LAN Switch/hub and from the LAN Switch/hub to the Application Server. The Application Server contains the system application that uses an algorithm to approximate the location of the ETC. Notably, the RM's do not communicate directly with each other. Rather, each RM communicates with LAN switches which in turn communicate with Application and Database Servers and other RM's. The Application Server displays the location ID associated with the RM ID and, thus, displays the location of an ETC. Database Servers will contain an updatable database of information regarding the passengers/objects.

Applicants' amended independent claim 1 recites, in part, the steps of:

"determining the presence of the entity within a predetermined area at a first of the plurality of tracking stations responsive to detection of the unique identifier;

comparing at the tracking station the unique identifier that has been detected with a database of unique identifiers stored at the tracking station;

wirelessly transmitting the unique identifier from the entity at a first of the plurality of tracking stations;"

In contrast, Lea et al. does not teach that the determining, comparing, and transmitting steps all occur at each individual tracking station. Instead, Lea et al. teaches that the unique identifier of the transponder device is scanned via the RM's using a scan inquiry, and then transmitted back with the RM ID via a network to an application server (page 4, paragraph 82). The application server is located away from the remote masters (RM's) and network hubs (Lea et al., Fig. 22). In stark contrast, Applicants' system processes are not routed to a server. Rather, Applicants' processing steps of detecting an entity's unique identifier and comparing the unique identifier with an identifier database are both contained within each tracking station (Applicants' specification, paragraph 19).

Even if one were assume that Lea et al.'s remote masters were equivalent to Applicants' "tracking stations", only Applicants' transmitting step would be present in Lea et al.'s RM's. Thus, any steps in Lea et al. that require processing, such as determining the presence of an entity at a tracking station or comparing identifier data with a database, would occur outside of the RM's. This is an important distinction from the cited art. By performing the processing steps at each tracking station, Applicants' invention advantageously reduces the network bandwidth that would have been required to route the unique identifier data to and from the application and database servers, where the comparison step would occur (Applicants' specification, ¶ 31).

Amended claim 1 also recites that "wirelessly transmitting the unique identifier comprises selectively communicating the unique identifier to at least the second tracking station based on a predicted transit scenario of the entity." This step also reduces network bandwidth by transmitting data, such as unique identifiers, to those tracking stations that fall under the predicted travel route of the entity. Lea et al., however, fails to teach this step since its remote masters do not wirelessly transmit unique identifier information to one another. Accordingly, amended claim 1 is not anticipated by Lea et al.

Examiner has also rejected dependent claims 2-9 as being anticipated by Lea et al. In response, Applicants assert that claims 2-9 are believed to be allowable at least by virtue of their dependence upon an allowable base claim. In view of the foregoing, Applicants respectfully submit that claims 1-9 are now in condition for allowance.

III. Claim Rejections Under 35 U.S.C. §103(a)

Dependent claims 4-6, and 9 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Lea et al. in view of U.S. Published Application No. 2005/0087596 to Larson et al. ("Larson et al."). However, Larson et al. fails to make up for the deficiencies of Lea et al. Larson et al. discloses methods and systems for managing personnel security at physical locations, namely security access points. The methods include respectively managing personnel security for one or more sponsor entities, vendor entities, and individuals associated with vendor entities. One of the methods disclosed by Larson et al. includes managing personnel security for a plurality of different sponsor entities from an administrator entity. The Larson et al. invention discloses that each access point location includes a computer with a processing unit, a wireless modem that is connected to a LAN network, a database of stored relevant data such as biometric data, and a card reader station that is capable of reading RFID security tags.

Notably, Larson et al. does not disclose or suggest selectively communicating a unique identifier to at least a second tracking station based on a predicted transit scenario of the entity. Applicants' invention, in contrast, offers a significant advantage over Larson by reducing the level of data traffic/bandwidth to the network. By determining a predicted transit scenario for an entity from a particular tracking station location, that tracking station can selectively transmit the entity's unique indentifier to only those tracking stations who may be accessed by the moving entity. Considering that some facilities may have many tracking stations, such a system would result in a major reduction in network bandwidth. In view of the foregoing, dependent claims 4-6 and 9 are not obvious in light of the combination of Lea et al. and Larson et al.

Claims 10-14 have also been rejected under 35 U.S.C. §103(a) as being unpatentable over Larson et al. in view of Lea et al. Amended independent claim 10 recites, in pertinent part: "the processor determines a predicted transit scenario for an entity possessing the unique identifier and selectively identifies at least the second one of the tracking stations to which the unique identifier is transmitted based on the predicted transit scenario." Neither Larson et al. nor Lea et al. suggest or motivate one of ordinary skill to practice the preceding limitation in amended claim 10. Lea et al.'s processor resides in the application and database servers, away from the remote masters (Fig. 20). This results in higher data traffic between the various RM's, hubs, and servers. Furthermore, even if one were to assume that Lea et al.'s processor resided at each remote master, the Lea et al. reference still does not teach the use of a predicted transit scenario to further reduce the level of network bandwidth.

Moreover, Larson et al. also fails to show a processor that determines a predicted transit scenario for an entity. Larson et al.'s central processing unit serves to compare relevant personnel and biometric data stored in its database with that of the entity and the entity's RFID security tag for identity verification only (Larson et al., ¶69). Hence, the amount of network traffic in Larson et al.'s invention would be significantly greater than Applicants', since there is no selective transmission of unique identifier data to the other access points in the network (Fig. 4).

Moreover, Applicants' amended claim 10 recites a wireless network adaptor capable of operating in a wireless ad-hoc network. In contrast, Larson et al. makes no mention that its network operates as a wireless ad hoc network, where certain security access points could be placed on/off-line. In view of the foregoing, neither Larson et al. nor Lea et al. suggests or motivates one of ordinary skill to practice Applicants' invention as recited in amended independent claim 10. Claims 11-15 are believed to be allowable on the basis of their dependence on an allowable base claim. In view of the aforementioned arguments, claims 1-15 are believed to be in condition for allowance.

IV. Conclusion

Applicants have made every effort to present claims which distinguish over the prior art, and it is believed that all claims are in condition for allowance. Nevertheless, Applicants invite the Examiner to call the undersigned if it is believed that a telephonic interview would expedite the prosecution of the application to an allowance. In view of the foregoing remarks, Applicants respectfully request reconsideration and prompt allowance of the pending claims.

Respectfully submitted,

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